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(54) Title: FATTY ACID ELONGASE (FAE) GENES AND THEIR UTILITY IN INCREASING ERUCIC ACID AND OTHER
VERY LONG-CHAIN FATTY ACID PROPORTIONS IN SEED OIL.

(57) Abstract: This invention relates to seeds of plant, plants themselves and cells of such plants which comprise a heterologous gene coding for a plant (such as nasturtium (*Tropaeolum majus*) or *Crambe abyssinica*) fatty acid elongase (FAE) gene or allelic variant thereof, or combinations of one or both of these FAE genes with an *Arabidopsis* fatty acid elongase 1 (FAE1) gene, in co-transformation, in reading frame alignment with a promoter capable of increasing expression of said gene(s), when said transformed plant cell is in a seed, said plant cell or seed being capable of producing an increase in proportion of a very long chain monounsaturated or saturated fatty acids when compared with the proportions of said fatty acids in a control plant cell or seed lacking said heterologous FAE gene or genes. The invention also relates to combinations of these fatty acid elongase genes by traditional crossing, sufficient to increase the proportion of very long chain monounsaturated or saturated fatty acids in the seed oil of the progeny compared to the proportion of said fatty acids in either of the parental lines.

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